

Appendix A: System messages and MMI commands description

This appendix lists system messages displayed or printed on the Meridian 1 and MMI terminal or TTY and Fibre Peripheral Controller card HEX messages displayed during selftest on the two-character display located on the Fibre Peripheral Controller faceplate.

It also lists in alphabetical order MMI commands and describes the function of each command.

Table 14
System messages displayed on the system terminal of TTY (Part 1 of 6)

MMI port messages
Chk_Thresh: B1 errors on primary/secondary Transmission degrade: receiver signal contains occasional error at a low rate. If the message repeats, check optical cables, connectors, and optical packets. Chk_Thresh: R71 bad idle bytes Chk_Thresh: R71 crc error threshold exceeded Chk_Thresh: R71 End of Packet missing RSIG lost sync error: x Chk_Thresh: R71 message has been truncated R71 failure - Reinit All these messages indicate problem with R71 (RSIG) signaling. If problem persists, do selftest.

Table 14
System messages displayed on the system terminal of TTY (Part 2 of 6)

TN read register unblocked, cnt= x

Problem with the Peripheral Signaling interface.
 Check to see if the Fibre Superloop Network card is seated correctly in its card slot.

FXNET Reset: Power-up/Watchdog/MSL-1 Boot version: xx

Reset caused by the CPU. **xx** is the boot code version. Multiple unassisted power-up resets indicate card, backplane, or supply failure. Watchdog reset may indicate firmware problem.

FXPEC Reset: Power-up/Watchdog/MSL-1 Boot version: xx

Reset caused by the MPU. **xx** is the boot code version. Multiple unassisted power-up resets indicate card, backplane, or supply failure. Watchdog reset may indicate firmware problem.

Card ID: string Prints the card ID stored in the EEPROM.

FXNET/FXPEC Main code version: xx {+pROBE}

This message appears at the end of the boot process.

TSIC Memory Mismatch . . . Rebuild OK

BRSC Local Switch Memory Mismatch, IVDch = x . . . Rebuild OK

Hardware or firmware fault (switching mechanism).
 Check to see if the Fibre Superloop Network card is seated correctly in its card slot.

Stuck RSIG

R71 CRC. cnt = x

R71 trunc. Cnt = x

R71 misalign. Cnt = x

R71 no resync. Cnt = x

All these messages indicate problem with R71 (RSIG) signaling. If problem persists, do selftest to identify the problem, which may be hardware.

Table 14
System messages displayed on the system terminal of TTY (Part 3 of 6)

Self-test messages Card test started...PASSED! or FAILED! In case of selftest failure, the self-test is restarted and a message is printed to indicate the cause of failure. If the fault persists, replace the card. The system will output a message to identify the fault. Failed component messages and their description are listed as follows: MPU confidence test failed The basic confidence test of the MPU of the tested card failed. MPU int mem test failed: address=<i>addr</i> expected=<i>x</i> received =<i>y</i> MPU internal memory failed at address=<i>addr</i>; <i>x</i> is the test pattern when writing, and <i>y</i> is the read value. EPROM test failed: calculated checksum=<i>checksum</i> The data in the boot EPROM is corrupt. The field <i>checksum</i> is calculated by the MPU. When the EPROM is good the checksum=0. FLASH EPROM failed: calculated checksum=<i>checksum</i> The data in the FLASH EPROM is corrupt. The field <i>checksum</i> is calculated by the MPU. When the EPROM is good the checksum=0. Shared RAM failed: address=<i>addr</i> expected=<i>x</i> received=<i>y</i> Shared memory failed at address=<i>addr</i>; <i>x</i> is the test pattern when writing, and <i>y</i> is the read value. Main RAM failed: address=<i>addr</i> expected=<i>x</i> received=<i>y</i> Shared memory failed at address=<i>addr</i>; <i>x</i> is the test pattern when writing, and <i>y</i> is the read value. MPU addressing failed The MPU addressing modes failed the test.

Table 14
System messages displayed on the system terminal of TTY (Part 4 of 6)

EEPROM failed: pattern/address/program	EEPROM cannot be reprogrammed. If the test passed, the card ID is printed.
Timer 1 failed	Internal timer in the card selftest failed.
Timer 2 failed	Internal timer in the card selftest failed.
Watchdog timer failed	One of the MPU internal timers failed. The timer ID is indicated in the message.
DUART failed	The system monitor port UART is faulty.
A21_1 failed	Network bus interface failed.
A21_2 failed	Network bus interface failed.
RSIG failed: <i>type</i>	RSIG is faulty. type is the type of failed test, which can be reg (register), cont (continuity), xcvr (receivers).
Interrupt failed: vect=<i>n</i>	MPU interrupt test failed, where n is the interrupt vector number that failed.
TSIC failed: <i>cause</i>	The FXPEC TSIC logic failed, where cause identifies the cause of failure.
A31 failed: <i>cause</i>	The FXPEC TSIC logic failed, where cause identifies the cause of failure.
Electro-optical packet testing	
Packlet #<i>n</i> equipped! testing...PASSED! or FAILED!	If the test result is FAILED!, the additional information printed on the TTY can be one of the following:

Table 14
System messages displayed on the system terminal of TTY (Part 5 of 6)

EOI #n failed: <i>cause</i>	
	EOI packet n failed and <i>cause</i> indicates the cause of the fault.
EOI #n loopback failed	
	The loopback test failed on the EOI #n.
P/EEPROM failed: <i>pattern/address/program</i>	
	EEPROM cannot be reprogrammed. If the test passed, the card ID is printed.
General card messages	
FXNET/FXPEC time: HH:MM dd/mm/yy	
	Time stamp is printed every 15 minutes, where HH:MM is hour and minute, dd/mm/yy is the day, month, and year.
Illegal command	Unrecognized command issued by the craftsman.
Illegal parameter	Incorrect parameter entry.
MMI: string from remote: <i>string</i>	
	String is received from the FXPEC, but FXNET is in the MMI mode. <i>string</i> represents the actual command received from the other side.
MMI: switched to MSL-1 mode	
	SUBM R command was executed at the opposite site to place the MMI terminal in the MSL-1 mode.
PLL locked	FXNET PLL lock was successful.
PLL start bit not ready	
	Problem with PLL. Unplug the card and plug it back in. In the message reappears, replace the packet.
PLL locked on prim/sec	
	FXPEC successfully locked on the signal from the Electro-optical packet identified by prim or sec .
PLL lock lost	PLL is in the process of trying to lock.

Table 14
System messages displayed on the system terminal of TTY (Part 6 of 6)

PWR messages
PWRxxxx HW SM UEM U Where HW=PWSP (power supply), DCSP (DC battery), SM=System monitor address (1-63) defined by the FXPEC MMI port. UEM=0 for the main wall-mounted cabinet and 1 for the expansion wall-mounted cabinet. U=unit (not used). XMI000 loop message This is the general format of MMI messages printed on the system TTY. loop is the superloop number of the FXNET and message is the text sent by the card. XMI000 loop OIF: switched to prim/sec Indication is that the span switched to primary or secondary link. XMI000 11 RSIG link lost - Reinitialized XMI000 11 R71 CRC Error threshold exceeded Failure of R71 (RSIG) communication to the Fibre Peripheral Controller card.

Table 15
Fibre Peripheral Controller selftest HEX codes (Part 1 of 2)

HEX code	Test description
01	MPU confidence test
02	MPU internal RAM
03	Boot EPROM test
04	RAM test
05	MPU addressing mode test
06	ID EEPROM test
07	FLASH EPROM test (the programmable part)
08	Watchdog timer test
09	MPU timers test
0A	DUART port A
0B	DUART port B
0C	A31 #1 external buffer
0D	A31 #1 internal context memory (phase A)
0E	A31 #1 internal context memory (phase B)
0F	A31 #1 internal TXVM memory
10	A31 #1 configuration memory
11	A31 #1 external FIFO
12	A31 #2 external buffer
13	A31 #2 internal context memory (phase A)
14	A31 #2 internal context memory (phase B)
15	A31 #2 internal TXVM memory
16	A31 #2 configuration memory

Table 15
Fibre Peripheral Controller selftest HEX codes (Part 2 of 2)

HEX code	Test description
17	A31 #2 external FIFO
18	R72 N-P switching control memory
19	R72 320x8 NIVD buffer
1A	R72 N-P Quiet code register
1B	R72 P-N switching control memory
1C	R72 640-8 XIVD buffer
1D	R72 640-8 XIVD loopback buffer test
1E	R72 P-N Quiet code register
1F	R71 register test
20	R71 continuity test, peripheral side
21	R71 continuity test, network side
22	R71 packet transmission test
23	Interrupt test
24	R71 continuity test, peripheral side DS30X

Table 16
Alphabetical list of MMI commands (Part 1 of 4)

Command	Description
CLOG	Clears the log file and deletes all the messages.
CXSM	For remote floor-standing column. Checks the communication between the Fibre Peripheral Controller and the system monitor in the pedestal. The output is: Wait... during the test and after the test it displays: XSM responding or XSM not responding .
EOIA on/of	Default is off. Monitors EOI laser controller and reports the result: #n= 0 (primary), #n=1 (secondary) EOI #n ALARMS: Transmitter Fail EOI #n ALARMS: Transmitter is OK EOI #n ALARMS: Laser Fail EOI #n ALARMS: Laser is OK EOI #n ALARMS: Transmitter Input Clock Loss EOI #n ALARMS: Transmitter Input Clock is OK EOI #n ALARMS: Laser Degrade EOI #n ALARMS: Laser Degrade is OK EOI #n ALARMS: Laser ShutDown EOI #n ALARMS: Laser ShutDown is OK EOI #n ALARMS: Receiver Fail, alarm= x EOI #n ALARMS: Receiver is OK EOI #n ALARMS: Receiver Optical Input Fail, alarm= x EOI #n ALARMS: Receiver Optical Input is OK EOI #n ALARMS: Low Optical Input Power, alrm= x EOI #n ALARMS: Low Optical Input Power is OK EOI #n ALARMS: High Optical Input Power, alrm= x EOI #n ALARMS: High Optical Input Power is OK
<ESC>L	Changes the MMI port to local or MMI mode. ESC must be the first character in the command and must be preceded with 1.5 seconds of no-input.
<ESC>R	Changes the MMI port to remote or SL-1 mode. ESC must be the first character in the command and must be preceded with 1.5 seconds of no-input.

Table 16
Alphabetical list of MMI commands (Part 2 of 4)

Command	Description
FORC PRI/SEC	Performs forced switch of the active span to PRI=primary or SEC=secondary packet.
HELP	Displays the list of commands.
IDC M/P/S	Query card ID information where M=main board (default setup), P=primary packet, and S=secondary packet
MANS PRI/SEC	Performs manual switch to the primary or secondary link in a redundant link configuration.
MCLR	Clears manual link switching and restores the automatic link backup.
NLOG {n}	Prints the next n messages from a log file starting with the message following the last printed. If n is omitted, one message is printed. You can change the last message printed by executing PLOG command.
PLOG {n}	Prints n messages from the log file starting with the oldest message. If n is omitted, one record is printed. If n is larger than the file or if n=0, the entire file is printed.
QDEF	Query the default mode of the MMI port. The response can be: Local or Remote
QFIB	Query the status of fibre-optic links. The response format is: PRIM physical signal direction SEC physical signal direction where physical can be: equip , unequip , or faulty signal can be: SF (failed), SD (degrade), or NA (no alarm) direction can be: incoming , outgoing , both , or none .

Table 16
Alphabetical list of MMI commands (Part 3 of 4)

Command	Description
QVER	Query version of the firmware and loadware. The response is: Boot: xx Main: yy PSDL: zz where xx= version of the boot firmware in EPROM yy= version of the main program, which is the last real download or the factory issue zz= version defined by the SVER command
QXSM	Query the system monitor port number that can be from 1 to 63.
SCID M/P/S string	Sets card ID of: M=main board, P=primary packlet, or S=secondary packlet. The string is programmed on an EEPROM. A maximum of 32 characters can be contained in the string. A password is required to execute the command. The response to the command can be: OK if the command execution is successful or FAILED if the execution failed.
SDEF L/R	Sets the default mode to Local (MMI mode) or Remote (SL-1 mode). This command does not affect the current working mode, but it does affect the default mode after the reset or power-up.
STAD d m y h m s	Sets time and date with day, month, year, hour, minute, and second
STAT	Query card status. The response can be: Enabled/Disabled PLL: lock/unlock prim/sec Enabled/Disabled indicates the status of the card. If Enabled, the CPU enabled it; otherwise, the response is Disabled. PLL: lock/unlock indicates the status of the PLL on the card. If locked, it indicates whether it is locked on the primary or secondary link. At the Fibre Superloop Network card an additional response is printed: n busy shows the number of time slots busy.

Table 16
Alphabetical list of MMI commands (Part 4 of 4)

Command	Description
SUBM string	Submits a command to the other side of the span where string represents the actual command executed by the other side. The response, if any, is printed locally.
SVER version	Sets the PSDL version, which is presented to the CPU. The parameter version is a decimal number and it must match the actual version of the non-fibre superloop and peripheral controller card version. This command affects only the cards on which it is executed.
SXSM n	Defines the system monitoring address n for a wall-mounted cabinet Fibre Remote IPE. The address is also stored in the Fibre Peripheral Controller card EEPROM. The command is in effect immediately.
TEST {P/S}	Tests the entire card if P/S is omitted, tests only the primary packet if P is specified, or tests only the secondary packet if S is specified. To test the entire card, you must first disable the card. To test the packet the card can be active but the packet you are testing must be idle. Test results are printed on the MMI terminal. If any of the tests fail, refer to Table 15, "Fibre Peripheral Controller selftest HEX codes," on page 139 for explanation.
TTAD	Query time and date.